

# Co-expression analysis

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An abbreviated version of this protocol was published in Science in Jan 2021

Controlled hydroxylations of diterpenoids allow for plant chemical defense without autotoxicity

DOI: 10.1126/science.abe4713

## Detailed protocol

### Protocol for co-expression analysis in Figure S1 of Research Article,

"Controlled hydroxylations of diterpenoids allow for plant chemical defense without autotoxicity"

DOI: [10.1126/science.abe4713](https://doi.org/10.1126/science.abe4713)

Figure S1A.

The correlation between known genes was developed using package "ggplot2", with the script attached as "Fig. S1A\_heatmap\_ggplot2.R"

Figure S1B.

The heatmap in B panel was developed using the original script of "heatmap.2" in package "gplots", attached as "Fig.

S1B\_heatmap\_gplots.R".

Figure S1C.

The dendrogram was produced using the modified R package "WGCNA". The script was attached with name as "Fig. S1C\_Module detection\_WGCNA.R".

The heatmap in Figure S1C was produced using the exact same script with "Fig. S1B\_heatmap\_gplots.R".

note that since .R files are not an allowable format for this site, all three .R files have been converted to .txt files

## Related files

Fig. S1A_heatmap_ggplot2.txt	
Fig. S1B_heatmap_gplots.txt	
Fig. S1C_Module detection_WGCNA.txt	
Protocol for Co-expression.docx	

**How to cite:** (Readers should cite both the Bio-protocol preprint and the original research article where this protocol was used)

- Xu, S. , Baldwin, I. T. and Li, J. (2021). Co-expression analysis. Bio-protocol Preprint. [bio-protocol.org/prep822](https://bio-protocol.org/prep822).
- Li, J., Halitschke, R., Li, D., Paetz, C., Su, H., Heiling, S., Xu, S. and Baldwin, I. T. (2021). Controlled hydroxylations of diterpenoids allow for plant chemical defense without autotoxicity. Science 371(6526). DOI: [10.1126/science.abe4713](https://doi.org/10.1126/science.abe4713)

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